

Name

Work and Power

Work-

Kinetic Energy-

Difference Between Force and Work-

Same Work different Forces

Work depends on-

Calculating Work

Power-

Calculating Power-

The unit used to express power is-

Power Measures-

More work in a given time=

Less Time of Work=

Next to each example explain whether or not work is being done and why.

1. You push your couch across the living room.
2. You carry a flag in a parade.
3. You pull on a cemented telephone pole.
4. You toss a basketball up into the air.
5. You carry the laundry basket up the steps.

Calculate the missing measurement for each example.

1. Force = 45 N Distance = 5 m Work = ?
2. Force = 15 N Distance = 10 m Work = ?
3. Force = 9N Distance = 3 m Work = ?
4. Force = ? Distance = 75m Work = 450J
5. Force = 33 N Distance = ? Work = 231J

Eduardo and Kai are fighting over the way to get their sled to the top of the hill that would require the least amount of work. Eduardo wants to pull it with a force of 12 N up the steep part of the hill that is 15 m long. Kai wants to pull it with a force of 9 N along the inclined part of the hill that is 20 m long. Whose way requires the least amount of work and why? Which way would you choose?

Calculate the power for each example

1. Work = 50 J Time = 5 s Power =
2. Work = 600 J Time = 12 s Power =
3. Work = 231 J Time = 11 s Power =
4. Work = 120 J Time = Power = 40 W

A lumberjack cutting down a tree with a hand saw produces 450 W and takes 30 s. If he uses a chainsaw it will take 10 s. What will be the power produced?

Work/Power Problems

1. Destinee lifts a box 2 meters with a force of 12 Newtons. What is the amount of work that was done?
 2. Antoine pushes a stroller 25 meters with a force of 9 Newtons. What is the amount of work done?
 3. Kyle pushes a desk 150 meters using a force of 3 Newtons. How much work did he use?
 4. Nelson produces 180 joules of work when he rolls a bowling ball 20 meters. How much force did he use?
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1. Meng is pushing Rena 15 meters in a chair using a force of 18 Newtons. If the whole trip takes 10 seconds, how much power was produced?
 2. It takes Dipti 20 seconds to slide a cabinet across a 100 meter floor with a force of 15 Newtons. How much power did she produce?
 3. Anthony takes 3 minutes to produce 720 joules of work. How much power does he produce?
 4. How much time would it take Adam to produce 3500 watts of power using a force of 10 Newtons on a box over 700 meters?

